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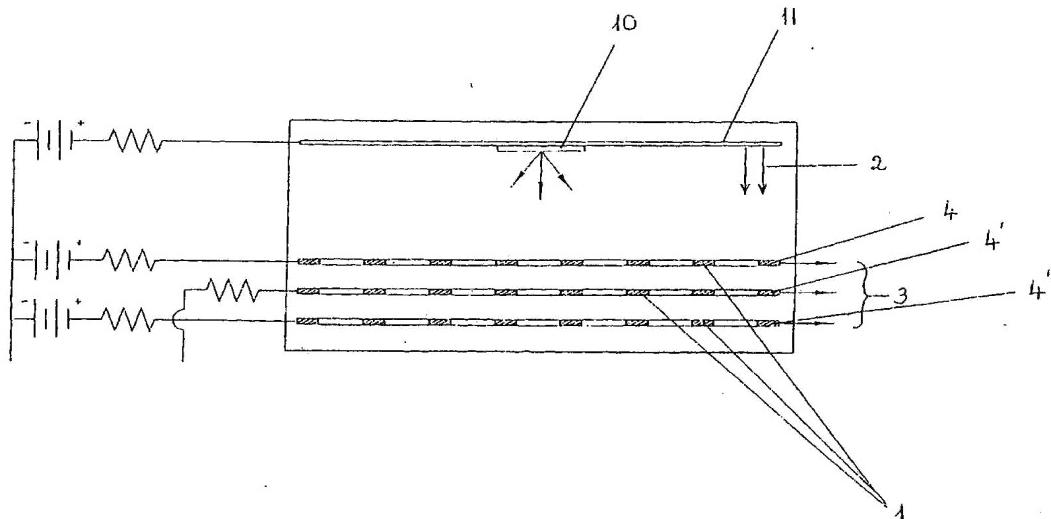
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(54) Title: RADIATION DETECTOR



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(57) Abstract: The present invention provides a radiation detector in which primary electrons are released into a gas by ionizing radiation from a radiation source (10), and are caused to drift to read-out electrodes (1) by means of an electric field (2), said radiation detector comprising a matrix of electric field condensing areas, each of said condensing areas producing a local electric field gradient sufficient to generate in said gas an electron avalanche from one of said primary electrons so that said gas electron multiplier operates as an amplifier for said primary electrons, and a position-sensitive signal detector comprising read-out electrodes (1), said radiation detector being further characterized in that said matrix of electric field condensing areas and said signal detector are united in a same dual-purpose physical structure (3).